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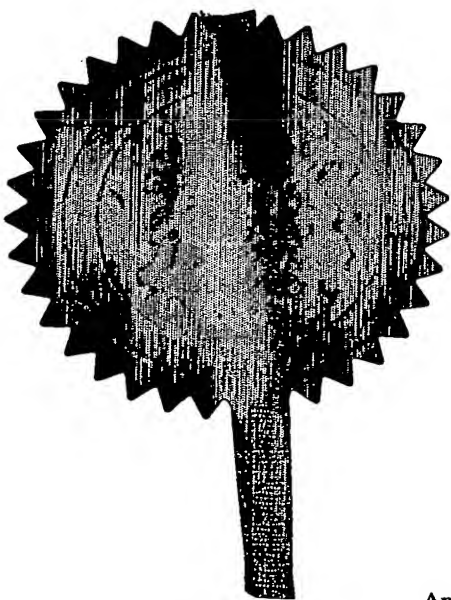
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08682429001

Patents ADP number (if you know it)

Landor & Hawa International Limited
Riverside House,
River Way,
Harlow,
Essex CM20 2DW

If the applicant is a corporate body, give the country/state of its incorporation

A British Body Corporate

4. Title of the invention
SUITCASE

5. Name of your agent (if you have one) **Patrick Russell-Rayner**

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

Business Centre West,
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Letchworth Garden City,
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Country	Priority application number (if you know it)	Date of filing (day / month / year)
Great Britain	0315031.5	27 07 2003 06 07 04

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Claim(s)

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Request for substantive examination (Patents Form 10/77)

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11.

I/We request the grant of a patent on the basis of this application.

Signature

P. Russell-Rayner

Date 19/12/03

12. Name and daytime telephone number of person to contact in the United Kingdom

Pat Russell-Rayner 01462 672538

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SUITCASE

This invention relates to the construction of luggage such as suitcases for use by travellers.

Many constructions of suitcases for use by travellers are known. These known constructions are of varied form and not infrequently include at least a pair of
5 wheels/rolls for facilitating the movement of the case by a user.

In addition, it is also known to provide suitcases incorporating a towing handle structure which is usually moveable between a user case towing position and a retracted stowage position.

Suitcases, can conveniently be considered is comprising two major types, the first
10 the so-called soft case and the second the so-called hard case.

The soft case conventionally incorporates a metal or plastics framework which provides the means whereby the visual appearance of the case is obtained and also serves to support a soft outer covering.

In many constructions the soft case includes a base portion into which articles to
15 be transported are introduced and a lid portion usually hinged to the base portion. A Zip fastener arrangement is conventionally provided to provide an all round connection between the lid portion and the base portion when it is required to close the case.

The Zip fastener arrangement can comprises a single Zip operable around
20 essentially the total periphery of the case, or two Zips, each associated with one half of the periphery of the case.

The above mentioned hard skinned cases are regarded as being hard skinned in the sense that the walls, top and bottom are so moulded or otherwise formed as to be substantially rigid or hard skinned in the sense that the walls, top and bottom are formed by a material that sufficiently rigid in that it retains its shape and form in use. A material commonly used for forming hard skinned cases is a polypropylene.

Such cases comprise two rigid shells that are hinged one to the other and which meet with an inter-nesting tongue and groove formation. Mechanical fasteners such as hinged locks are used to retain the lid portion and the base portion in a closed position:

These suitcases are not infrequently considerably heavier than soft cases in weight.

Bearing in mind that many present day modes of travel, i.e., by aircraft, coach etc. impose a weight limit upon the amount of luggage an individual passenger may carry it has been found that whilst the hard case affords a considerably higher degree of security and damage resistance the extra weight of the case imposes considerable limitations upon the actual weight of articles that may be introduced into the case.

On the other hand whilst the lighter weight of the soft case allows more articles to be packed into the case weight for weight the lesser security afforded by the soft outer covering against damage deliberate or otherwise introduces problems for the traveller.

It is an object of the present invention to inter alia a suitcase construction that avoids at least some of the problems arising from the use of the known construction of hard and soft type cases.

A further object is the provision of a suitcase whose appearance departs from that of a purely standard rectangular block like formation for a suitcase.

5 Broadly according to a first aspect of the invention there is provided a method of constructing a hard suitcase including forming a shaped base portion and a shaped lid portion from a plastics material of such characteristic that the portions retain their intended shape, and attaching to each of said portions the respective zipped portions of a zip fastener arrangement by a stitching operation involving a securing thread.

10 In accordance with a second aspect of the invention there is provided a method of constructing a hard suitcase including forming a base portion and a lid portion from a material of such characteristic that the portions retain their formed shape, and attaching to each of said portions the respective zipped portions of a zip fastener arrangement by a stitching operation involving a securing thread.

15 Preferably, a method of constructing a hard suitcase includes forming a tray like base portion and a tray like lid portion from a material of such characteristics that the base and lid portions retain their intended shape, and attaching to the free end regions of the walls of said tray like portions the respective fastener forming sections of a zip fastener arrangement for enabling the base and lid portions to be retained in a suitcase closed condition, and attaching the zip fastener arrangement
20 to the base and lid portions by a stitching operation involving a securing thread.

In accordance with a further aspect of the invention there is provided a method of constructing a suitcase including forming a tray like base portion and a tray like lid portion from a material of such characteristic that the portions retain their formed shape, and attaching to each of said portions the respective zipped
25 sections of a zip fastener arrangement by a stitching operation involving a

securing thread, the Zip fastener arrangement being such as to enable the suitcase to be retained in a closed condition, and incorporating means for enabling increase in the storage volume of the closed suitcase.

5 Broadly, according to a still further first aspect of the invention there is provided a suitcase construction having a base portion and a lid portion that retain their shape thereby affording rigidity to the case whilst at the same time enabling use of at least one Zip fastener arrangement for the purposes of closing the case.

10 Preferably a suitcase is provided with two sets of floor engaging support members, there being a set being provided one to each of two transverse surfaces of the suitcase whereby the case can be stood on a support surface in one or the other of two orientations.

15 In a preferred construction two of the elements of one such set are provided upon the bottom portion and incorporate wheels/rolls whereby the case is rendered towable, and in which at least one other element of this set is located on the lid portion, the arrangement being such as to provided a stable support for the case when not being towed.

In a preferred construction that side of the base portion that is opposite to the wheels/rolls is provided with a case carrying handle and a retractable towing means..

20 Preferably, two elements of the second such set are provided upon a longer side wall of the base portion and two further elements of this set are provided upon a corresponding wall of the lid portion, the arrangement being such that the case when resting on the elements of this set is stable, and wherein a carrying handle is provided on the side of the bottom portion that is opposite to the side with said
25 elements.

In a further preferred construction the case incorporates means whereby the volume of the case is expandable.

Conveniently, the expandability is achieved by providing a two part Zip fastener arrangement of which a first Zip part is associated with the closing of the case and
5 of which a second Zip part is associated with the expandability of the case.

Preferably, the second Zip part is interposed between the lid section of the case and the portion of the Zip fastener arrangement associated with the closure of the case.

Conveniently, the second Zip part includes a first section attached to the case and
10 additionally along the peripheral edge of a strip of flexible material circumscribing the mouth of the lid portion and attached thereto, and a second section that is attached to the peripheral edge of the strip of material that is remote from the case lid portion.

For a better understanding of the invention and to show how to carry the same into
15 effect reference will now be made to the accompanying drawings in which:-

Figure 1 is a view of the carrying handle side of a first embodiment of a solid skinned suitcase case incorporating the concepts of the invention;

Figure 2 is a view of the opposite side to carrying handle side of a solid skinned suitcase case shown in Figure 1;

20 Figure 3 is a top view of the suitcase as shown in Figures 1 and 2;

Figure 4 is a bottom view of the suitcase as shown in Figures 1 and 2;

Figure 5 is a face view of the suitcase shown in Figures 1 to 4;

Figure 6 is a face view of the opposite side of the case as shown in Figure 5;

Figure 7 is a side view of a second embodiment of a suitcase which is volume wise expandable the Figure illustrating the suitcase when unexpanded;

Figure 8 is a side view of the suitcase of Figure 7 when the suitcase is expanded

5 and;

Figure 9 is a cross sectional view of a detail of the suitcase construction to an enlarged scale.

Referring to the drawings. the suitcase shown therein includes a main body or base portion 1 and a lid portion 2. Both the base portion and the lid portion are
10 formed from a plastics material of such nature that the portions are self supporting and at the same time are capable of being stitched to a Zip fastener arrangement as will be discussed hereinafter.

In a particular construction the material used for the lid and base portions is a mixture of polycarbonate material with an ABS plastics of the kind
15 conventionally used for hard side framed luggage.

As seen in orientation of the suitcase as shown in Figures 1 to 4 the base portion 1 includes a bottom main surface 3, longer side walls 4 and 5, and shorter side walls 6 and 7.

Also as seen the Figures 1 and 2 the lid portion 1 can be regarded as including a
20 top main surface 8, side walls 9 and 10 and smoothly curved regions 11 and 12 that can be regarded as forming the remaining walls of the lid portion.

Since the lid and base portions are intended to connect one with the other when the suitcase is closed, as is shown in the Figures, the main body portion 1 and the lid portion 2 are respectfully formed with complementary profiled stiffening ribs 13 and 14 respectively.

5 In the embodiment of the suitcase as shown in the Figures the lid portion is pivotally secured to the base portion by hinging arrangement schematically shown at (Figure 4) and is maintained in its closed position by a circumscribing Zip fastener arrangement 16 including two operating members 17 which can be set to allow the lid portion 2 to be pivoted to an open position and when the two
10 operating elements are moved to the positions shown in the Figure 3 the lid section is held in its closed position as shown.

The Zip fastener arrangement 16 includes conventional Zip toothed strips/sections 16A and 16B that are connected to the stiffening ribs regions of the base portion and the lid portion by machine stitching. The mode of securing the Zip fastener
15 arrangement to the lid and base sections will be considered in more detail herein after. For the present it will be noted that the provision of the Zip fastener arrangement 16 with its toothed strips/sections 16A and 16B and operating members 17 mounted to the base and lid portions affords an all round closure to the case whilst at the same time eliminating the need for a tongue and grove
20 engagement region between the lid and base portions and mechanical closures such as locks.

The suitcase incorporates a user towing facility. Thus the suitcase is provided at two corners of the base portion with wheel mounting units 18. As can be seen from Figure 4 the units each include a shaped housing 18 that is secured to the
25 suitcase corners. In the case of each housing 18 a wheel 19 is suitably mounted in the housing 18 such that the wheel projects rearwards and downwards of the base portion 1.

A towing handle assembly 20 is provided in the base portion 1. This handle assembly is housed within the structure of the base portion so that when not in use its is retractable into an effectively concealed position. Thus the base portion is moulded with suitable recess for accommodating the handle assembly.

- 5 In use the handle is pulled upwardly (as indicated in the Figures) to a fully extended user position.

A first suitcase carrying handle 21 is secured to the base section at a location adjacent to the towing handle location. A second suitcase carrying handle 22 is secured to the base portion, this latter handle being on the longer wall 6.

- 10 As will be noted from the Figures 1 to 6, the side walls of the base portion and the lid portion are curved inwardly as particularly shown in Figures 5 and 6.

- In addition, the central sections of the larger face 3 of the base portion 1 and the larger face 8 of the lid portion are raised relative to the the remainder of the associated larger face. The larger face of the base portion 1 is additionally
15 provided with a plurality of raised rib formations 3A in the region of the wheel housings 18.

Furthermore as may be noted from Figures 1 and 2 the larger face of the base portion 1 is inwardly curved.

- Also the walls of the base portion in the vicinity of the handles 21 and 22 are
20 countersunk so as to provide space for the fingers of the user when using the handles.

One of the functions of the raised and curved formations of the base and the lid portions is to provide for additional strength of the base and the lid portions since the provision of such formations for stiffening of the larger areas of the suitcase to reduce flexure in use.

- 5 It will be appreciated that the provision of a carrying handle implies that a person carrying the suitcase by way of the handle will for whatever reason from time to time set the case down into the floor/ground.

As a consequence of this in order to avoid damage and/or disfigurement to the suitcase the suitcase is provided with support elements which are intended to
10 support the actual base and lid portions away from floor/ground contact.

In the case of the carrying handle 21 a support bar 23 is provided on the end wall 12 of the lid portion, the support bar being shaped as shown in Figure 5. This bar is so dimensioned such that when the suitcase is oriented as shown in Figures 1 and 2 the suitcase is supported in a generally vertical setting.

- 15 In the case of the carrying handle 22 a group of four support elements 24 are provided, two on the side wall 3 of the base portion and two on the wall 10 of the lid portion.

Figures 7 and 8 illustrate a modified construction of the suitcase shown in the Figures 1 to 6. The construction of the suitcase of Figures 7 and 8 is generally
20 similar to that of the Figures 1 to 6. The essential difference is that the suitcase of Figures 7 and 8 is provided with the facility of expandability in volume.

This expandability is achieved by providing an additional double Zip fastener arrangement 25. One of the tooth strips/sections 25A of the fastener arrangement 25 is stitched to the lid portion 2. The other toothed strip/section 25B of the

fastener arrangement is attached to the section of the fastener arrangement 16 associated with toothed strip 16B. A flexible band or gusset 26 is provided between the toothed strips 25A and 25B of the fastener arrangement 25. The provision of this gusset enables the lid portion 2 to be bodily moved away from the base portion to an extent defined by the width of the gusset 26..

With this arrangement when both the Zip fastener arrangement 16 and the Zip fastener arrangement 26 are both in their closed positions as shown in Figure 7 the suitcase is set to its minimum volume and is in its closed condition.

When the Zip fastener arrangement 16 is closed as is shown in Figure 8 and the zip fastener arrangement 25 is open as is schematically indicated in Figure 8 the lid portion is bodily movable away from the base portion by a distance defined by the width of the gusset 26 to increase the overall volume of the case whilst the case remains closed.

Bearing in mind that the material forming the Zip fastener sections/strips is conventionally a woven material it has been appreciated that for the purposes of avoidance of damage to the woven material in the vicinity of the regions thereof that are stitched to the base and lid portions 1 and 2 and additionally to enhance the appearance of the suitcase those regions of the Zip fasteners strips/sections that are involved in the stitching process are covered by a cover strip 30 (Figure 9) that is secured to the associated base and lid portions 1 and 2 by the stitching operation involved in securing the associated Zip fastener section/strip to the base and lid sections of the case.

As shown in Figure 9, the cover strip 30 is formed by an generally compressed S cross-sectioned plastics material strip 31 providing an outer layers 32 and 34 and a central layer 33. The layers 32 and 33 combine to form a U recess into which is inserted the rim region of the bottom section 1 or that of the lid section 2. The

layers 33 and 34 combine to form a second recess facing opposite direction to the first mentioned recess. The associated section/strip (16A, 16B or 16A, 25A) of the Zip fastener arrangements 16 and 25 is located within this second recess. With this arrangement layer 34 of plastics material overlies the associated Zip fastener section/strip and effectively hides the Zip fastener portion involved from view and gives additional strength to the stitching of the Zip fastener in place.

It will be appreciated that closure of the Zip arrangement 25 will draw the lid portion towards the base section 1 and thus reduce the overall case volume to that defined by the shaping of the base and lid portions.

If it is desired to provide for a double expansion of the volume of the overall volume of the case the base portion can be achieved by providing a further Zip Fastener arrangement (not shown) between the fastener arrangements 16 and 25.

In this construction the case will incorporate three Zip formations, two associated with the expandability of the case and the third associated with the opening and closing of the case.

The utilisation of a material to form the base and lid portions that retain their body shape whilst being capable of by stitched to Zip fastener arrangements has enabled the elimination of internal framing such as conventionally incorporated in the so-called soft cases and has also enabled the elimination of the need for relatively heavy mechanical case locking arrangements together with heavy tongue and groove features conventionally used with the so-called hard cases. This combination has effectively resulted in a hard case construction with significant reduction in weight as compared with equivalently sized conventional hard case.

In addition, it will be appreciated that the construction proposed by the present invention has enabled the introduction of the feature content volume expansion into a hard case construction.

5 It has been found that the case construction as above discussed has resulted in a case construction that has been found easier to handle as compared with equivalent sized hard cases.

CLAIMS

1 A method of constructing a hard suitcase including forming a shaped base
portion and a shaped lid portion from a plastics material of such characteristic that
the portions retain their intended shape, and attaching to each of said portions the
5 respective zipped portions of a zip fastener arrangement by a stitching operation
involving a securing thread.

2 A method of constructing a hard suitcase including forming a base portion
and a lid portion from a material of such characteristic that the portions retain
their formed shape, and attaching to each of said portions the respective zipped
10 portions of a zip fastener arrangement by a stitching operation involving a
securing thread.

3 A method of constructing a hard suitcase including forming a tray like base
portion and a tray like lid portion from a material of such characteristics that the
base and lid portions retain their intended shape, and attaching to the free end
15 regions of the walls of said tray like portions the respective fastener forming
sections of a zip fastener arrangement for enabling the base and lid portions to be
retained in a suitcase closed condition, and attaching the zip fastener arrangement
to the base and lid portions by a stitching operation involving a securing thread.

4 A method of constructing a suitcase including forming a tray like base portion
20 and a tray like lid portion from a material of such characteristic that the portions
retain their formed shape, and attaching to each of said portions the respective
zipped sections of a zip fastener arrangement by a stitching operation involving a
securing thread, the Zip fastener arrangement being such as to enable the
suitcase to be retained in a closed condition, and incorporating means for enabling
25 increase in the storage volume of the closed suitcase.

5 A method as claimed in claim 4, and in which the means for enabling said increase in the closed volume of the suitcase includes part of the zip fastener arrangement provided for the closure of the suitcase.

5 6 A method as claimed in claim 5, and in which the zip fastener arrangement includes a two part Zip fastener arrangement of which a first Zip part is associated with the opening and closing of the case and a second Zip part is associated with the expandability of the case.

7 A method as claimed in claim 6, and in which the a first section of the first Zip part is stitched to the suitcase lid portion, and the second section of the first
10 Zip part is secured to the first zip section of the second zip fastener part whose second section is secured to the suitcase base portion.

8 A method as claimed in claim 6 or 7, and in which the extent of closed volume increase is determined by the overall width of the interconnected sections of the first and second Zip parts of the two part Zip fastener arrangement.

15 9. A method as claimed in claim 8 and in which a gusset forming strip is provided between the adjoining sections of the first and second Zip fastener parts, and in which the overall increase in the closed volume of the suitcase is determined by the width of the gusset.

10. A method as claimed in any one of claims 1 to 9, and including the step of
20 covering in the edge region of the zip fastener sections stitched to the base and lid portions by a cover strip that is secured to the associated base and lid portion by the stitching operation involved in securing the associated Zip fastener sections/strips to the base and lid sections of the case.

11. A method as claimed in claim 10 in which the cover strip includes a length of a U cross-sectioned plastics material strip into which is inserted the associated Zip fastener section so as to produce a layered formation including a layer of plastics material immediately adjacent the associated case portion, the associated
5 section of the Zip fastener arrangement and an outer layer of plastics material.

12. A method of constructing a suitcase substantially as herein before described in Figures 1 to 6 and 9, and Figures 1 to 6 and 9 as modified in Figures 7 and 8 of the accompanying drawings.

13. A suitcase with produced by a method as claimed in any one of the preceding
10 claims.

14. A suitcase construction including a base portion and a lid portion, and lid portions being formed of such material that the portions retain their intended shape whilst at the same time enabling the attachment by a stitching operation of at least one Zip fastener arrangement for the purposes of enabling closure of the
15 case.

15. A suitcase as claimed in claim 7 and including two sets of floor engaging support members, there being a set being provided one to each of two transverse surfaces of the suitcase whereby the case can be stood on a support surface in one or the other of two orientations.

20 16. A suitcase as claimed in claim 15 and including means whereby the volume of the case is expandable.

17 A suitcase as claimed in Claim 16, wherein the expandability is achieved by providing a two part Zip fastener arrangement of which a first Zip part is

associated with the closing of the case and of which a second Zip part is associated with the expandability of the case.

18 A suitcase as claimed in claim 17, wherein the second Zip part is interposed between the lid section of the case and the section of the Zip fastener arrangement
5 associated with the closure of the case.

19. A suitcase as claimed in claim 18 wherein, the second Zip part is interposed between the lid section of the case and the portion of the Zip, formation associated with the closure of the case.

20. A suitcase as claimed in claim any one of claims 14 to 98, and wherein
10 elements of one such set are provided upon the bottom portion and incorporate wheels/rolls whereby the case is rendered towable, and in which at least one other element of this set is located on the lid portion, the arrangement being such as to provided a stable support for the case when not being towed.

21. A suitcase as claimed in any one of claims 14 to 20, and wherein that side of
15 the base portion that is opposite to the wheels/rolls is provided with a case carrying handle and a retractable towing means..

22 A suitcase as claimed in any one of claims 17 to 21, and wherein the second Zip part includes a first part attached to the case and additionally along the peripheral edge of a strip of flexible material circumscribing the mouth of the lid
20 portion and attached thereto, and a second part that is attached to the peripheral edge of the strip of material that is remote from the case lid portion.

23. A suitcase constructed as herein before described with reference to Figures 1 to 6 and 9, and Figures 1 to 6 and 9 as modified in Figures 7 and 8 of the accompanying drawings.

ABSTRACT

SUITCASE

5 A method of constructing a hard suitcase including forming a shaped base portion (2) and a shaped lid portion (1) from a plastics material of such characteristic that the portions retain their intended shape, and attaching to each of said portions the respective zipped portions of a zip fastener arrangement (16) (by a stitching operation involving a securing thread.

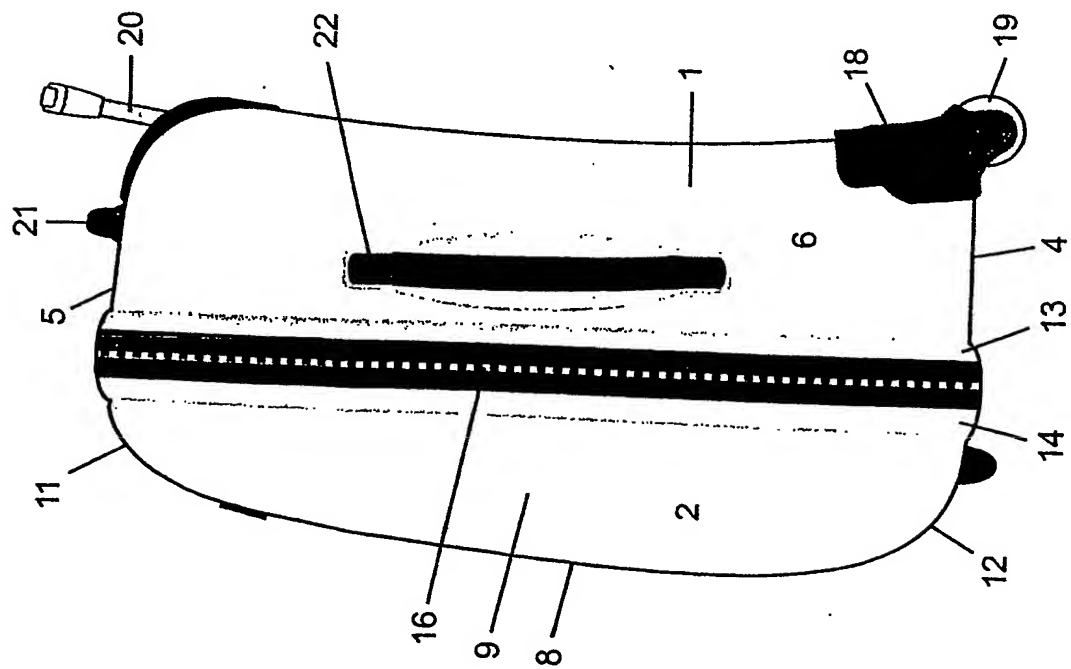


FIG. 1

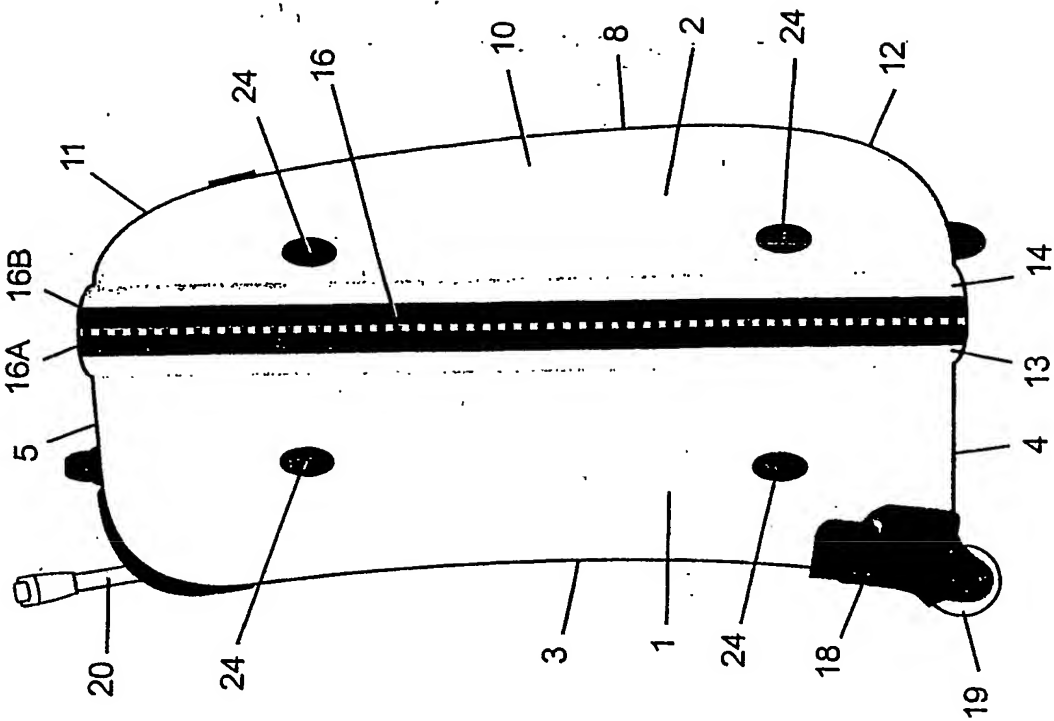


FIG. 2

FIG. 3

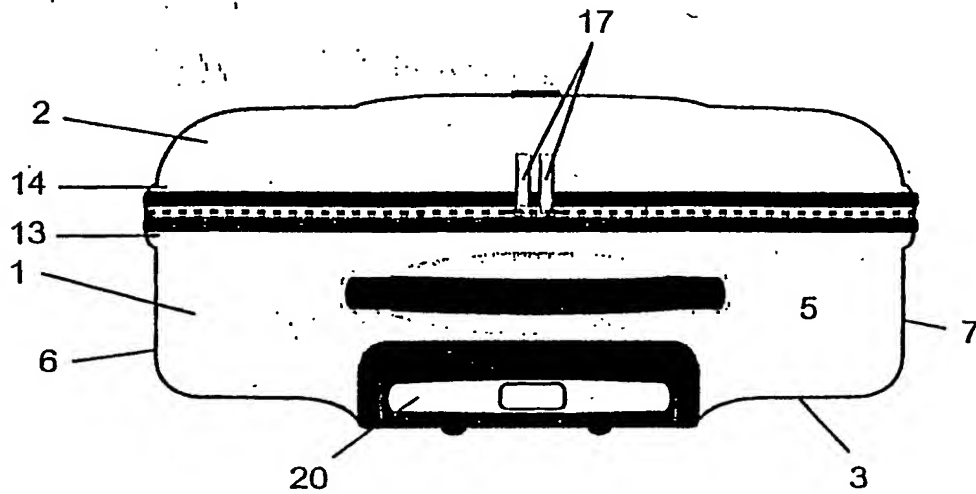


FIG. 4

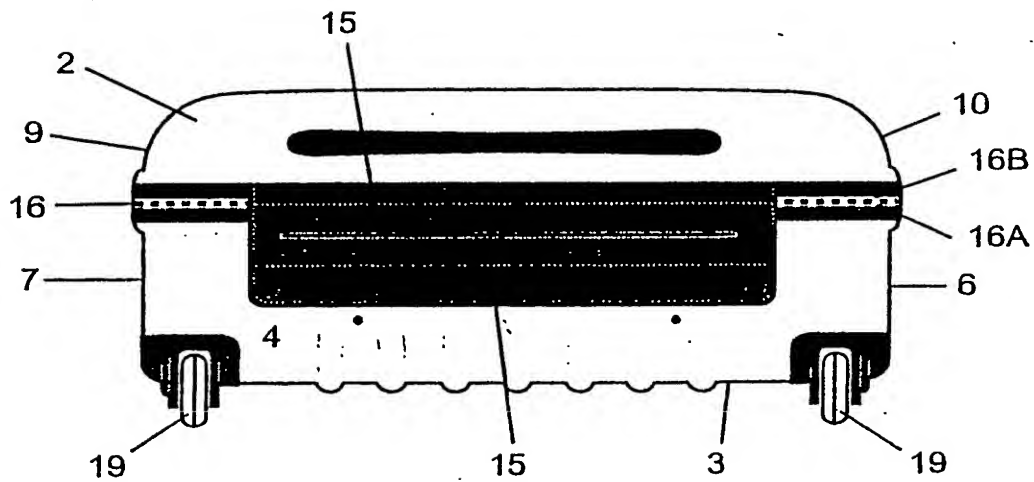
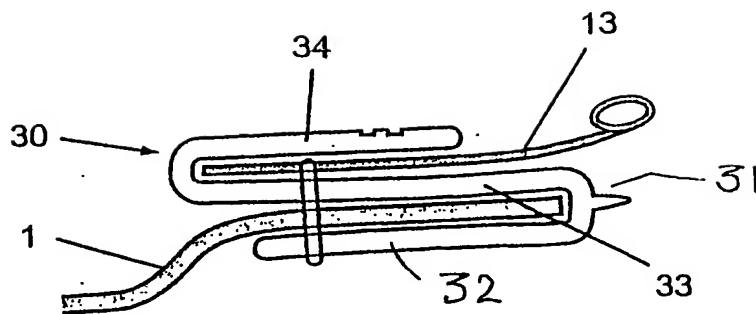


FIG. 9



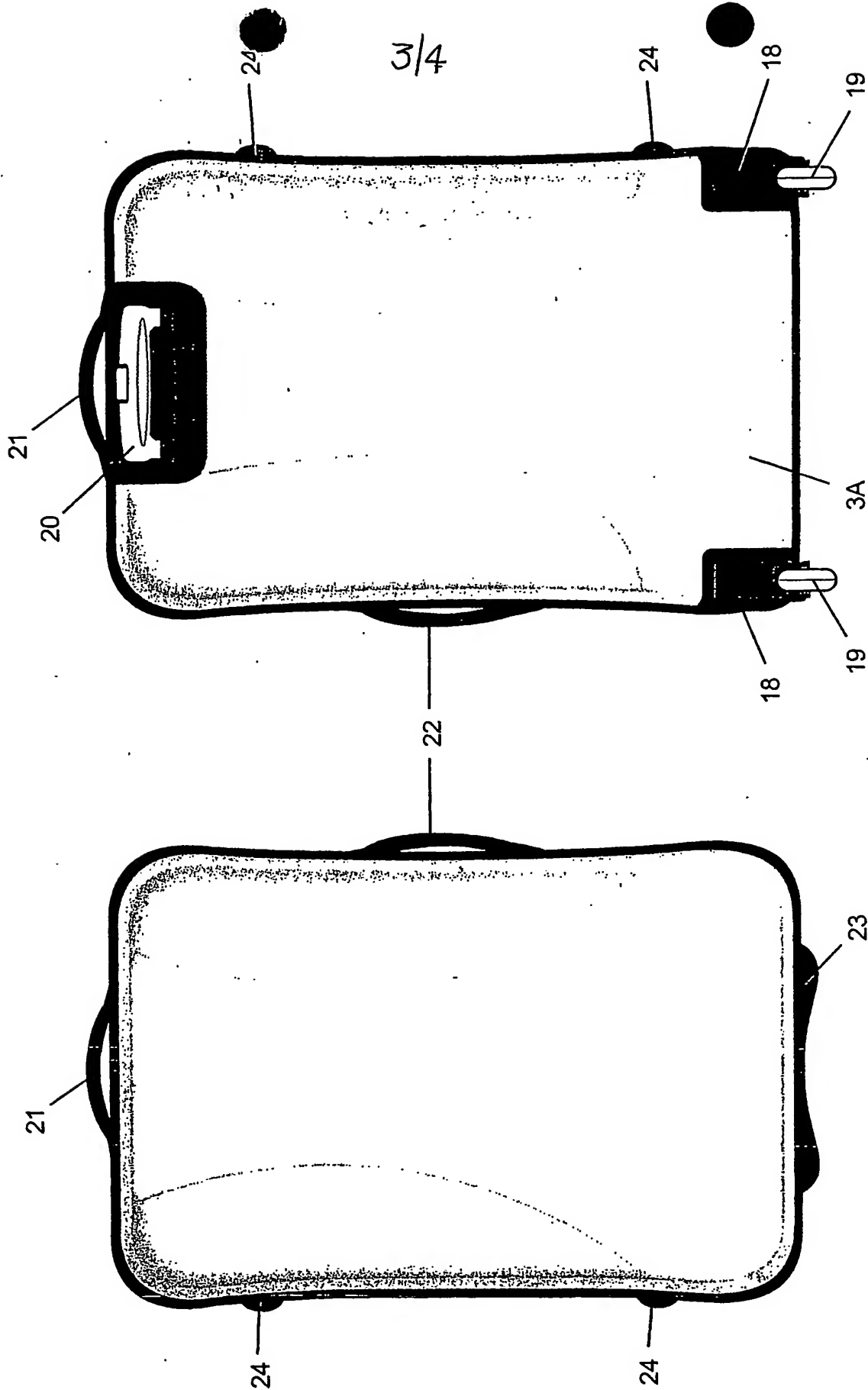


FIG. 6

FIG. 5

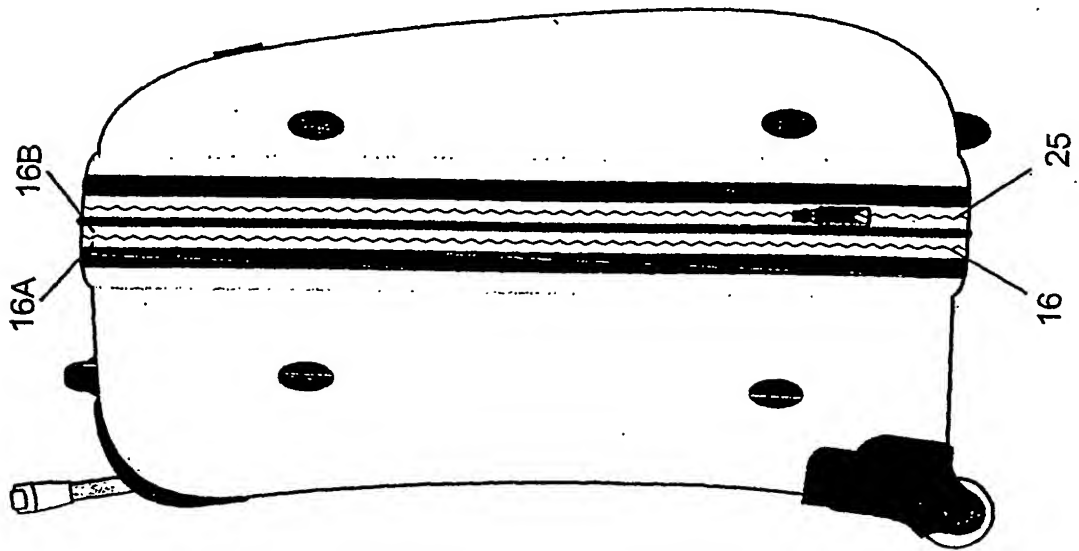


FIG. 7

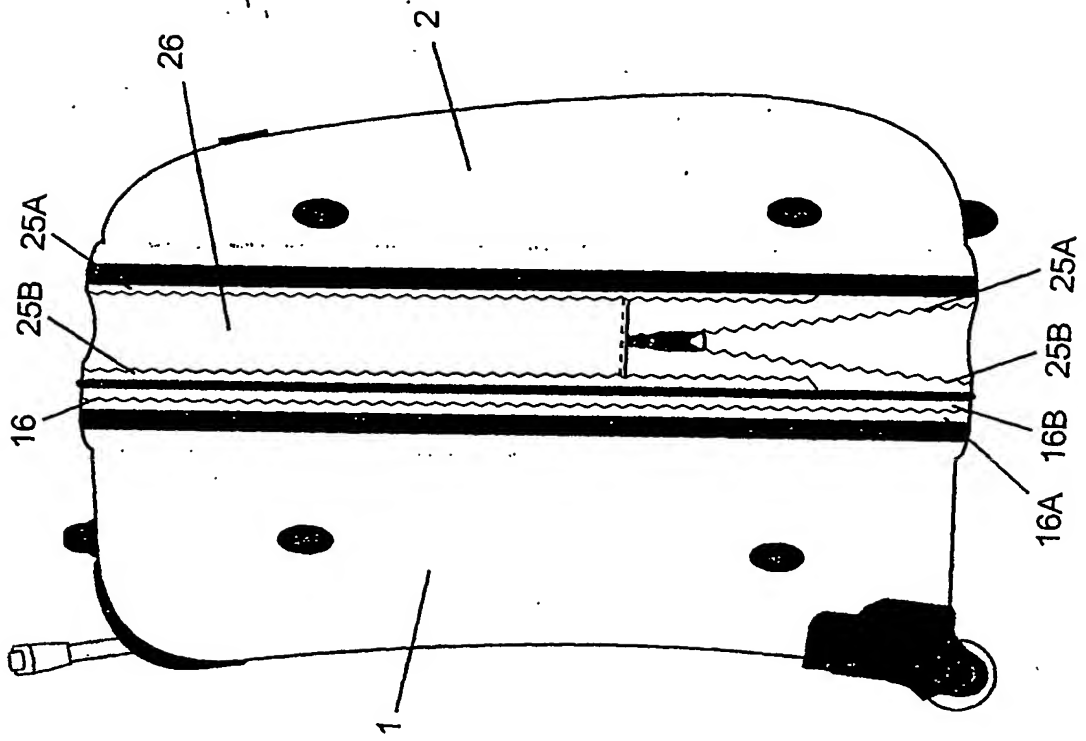
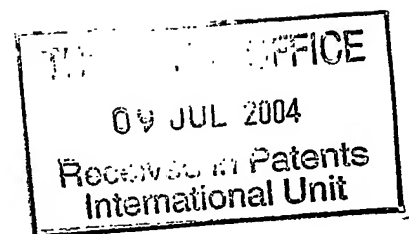


FIG. 8

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